

Inpatients' expectations and experiences of hospital pharmacy services: qualitative study

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Abstract

Introduction Hospital pharmacists' have traditionally focused on the manufacture and supply of medicines. However, the increasing complexity and range of medicines and a greater awareness of medication errors has facilitated a change towards a patient-centred role. Given this movement, it is surprising that a search of the published literature shows very little research that evaluated patients' views of hospital-based pharmacy services.

Objective To explore inpatients' expectations and experiences of hospital-based pharmacy services.

Study setting and design Face-to-face semi-structured interviews with inpatients admitted to acute medical wards of three NHS general hospitals.

Principal findings Seventy-four inpatients were interviewed: 37 were male with average age 73 years (age range of 19–86 years). The predominate number of participants (62/74, 84%) being in the 65–80 years of age group. Thematic analysis of the data was driven by three themes; patients' expectations of the pharmacist's involvement in their treatment and care, the patients' experiences of any interaction that may have taken place and the patients' evaluation of their interaction with the pharmacist.

Conclusions There was a dichotomy of expectations and opinions from patients about the role of hospital pharmacists and the services being provided. As pharmacists' roles are developing towards a patient-orientated model in which pharmacists have direct contact with patients and their care, it is important to ensure that patients are aware of these developments to help them maximize the benefit they derive from their country's health-care system.

Introduction

Pharmacists' involvement in the care of patients has traditionally focused on the manufacture and supply of medicines. However, the increasing complexity and range of medicines, coupled with a greater awareness of medication errors, has facilitated a change to a more patient-orientated role. Ward-based hospital pharmacists not only promote the safe and timely supply of medicines but also proactively interact with patients and other health-care professionals, as well as directly intervening in the patient care process.^{1,2} The extent to which hospital pharmacy has taken up these roles varies from country to country and has been influenced by government health policy, the availability of pharmacists, their relevant skill mix and the economics of health care.³

The United Kingdom (UK) Government strategy for hospital-based pharmacy NHS services has evolved over 20 years. In 2000, a strategy to ensure the best clinical and cost-effective use of medicine in hospitals was introduced.⁴ An audit of medicines management in NHS hospitals quickly followed, which outlined further strategies to improve service and patient care in NHS hospitals.⁵ Further strategies focused on placing the patient at the centre of the hospitals' medicines management arrangements and ensuring pharmacists were central to patient care.^{5,6} By 2004, hospital pharmacists ensured the appropriate use of medicines by patients, maximize the skills of all hospital staff, introduce systems to reduce waste and increase efficiency whilst still maintaining patient safety.⁶ The change to a more patient-led service gave patients greater choice and control.⁷ Patient evaluation of hospital-based pharmacy services has become an important measure of how well health-care services met patient needs; a key component of the UK Government's patient-led restructured NHS.⁸

With the support of Government, health policy and other medical professions and hospital pharmacists in the UK have continued to engage and expand their influence in other clinical areas such as prescription monitoring, pre-

scribing advice to medical and nursing staff, medication history taking and medicines reconciliation. In addition, specialist pharmacist-led clinics have been established, for example anti-coagulation, which are currently directly linked to the prevention of venous thromboembolism across all adult specialities.⁹ This patient-facing multidisciplinary pharmacist role is not isolated to hospitals within the UK.

A review of clinical pharmacy across the world by LeBlanc and Dasta indicates, as in the UK, that there is a trend away from traditional medication-orientated tasks to multidisciplinary patient-orientated activities (for example, medication reviews, ward rounds, recording medication histories, drug optimization and participation in specialist teams).³ The extent to which this is occurring varies between countries.²

Given this global movement towards patient-orientated pharmacy services, it is surprising that a search of the published literature shows very little research that evaluated patients' views of hospital-based pharmacy services; none involved hospitals in the UK.^{10–12} Research from the United States of America indicates that patients' expectations of pharmacy services 'are more likely to portray the pharmacist as a supplier of prescription products than that of a concerned counsellor regarding medications'.⁷ Patients saw the pharmacist as someone who is 'directed and controlled by the physician'. The research also indicated that patients' expectations of pharmacy services were not matched by the expectations of hospital staff and managers.

The National NHS inpatient survey, which compares patient experiences across 165 acute and specialist NHS hospital trusts in England only refers to doctors and nurses involvement in the care of patients.¹³ Similarly, it is not apparent from the survey which health-care professionals were involved in ensuring that 76% of those surveyed said they 'definitely' received information about how to take their medicine.⁸ Given the Government's strategy for pharmacy services in NHS England, it is surprising that no research has yet been

undertaken to evaluate hospital-based pharmacy services in the UK, and it impacts on patients.

The aim of this study was to explore inpatients' expectations and experiences of hospital-based pharmacy services.

Methodology

This exploratory qualitative study involved face-to-face audio-recorded semi-structured interviews with hospital inpatients admitted to acute medical wards of three NHS general hospital trusts situated in the North West of England. Semi-structured interviews were used to encourage patients' to give their own understanding and enabling them to voice features that have not been predicated or prioritized. Acute medical wards were chosen as the research team considered it likely that patients would have more regular contact with hospital pharmacists than those admitted to surgical wards, where pharmacists tend to cover larger patient cohorts.

Three research assistants, each assigned to a different hospital, conducted the interviews. Approvals were obtained from NHS and University Research Ethics Committees as well as Research Governance Departments of the three participating Trusts prior to patients being recruited.

Patients were included in the study if they were over the age of 18 years of age and able to communicate to the researcher in English. In addition, the nurse-in-charge of the relevant medical ward(s) had given signed informed consent, determined which patients were stable, not confused and/or cognitive impaired and well enough to take part in the study. Patients who had been admitted to an intensive or high dependency ward of the three participating hospitals were excluded from the study.

Those patients who met the inclusion criteria were purposively sampled to ensure that selected participants represented the characteristics of interest, which included gender, age, number of previous admissions to hospital, number of regular prescribed medications (medications the

patient was prescribed prior to being admitted into hospital) and diagnosed medical condition (s). Patients who had not experienced the pharmacy services during this stay or previously were included to determine what, if any, expectations they had of hospital services.

Those who gave their informed consent completed a recorded interview at their bedside or in a room adjacent to the ward (with the agreement of the nurse-in-charge and patient). Measures were taken by the researcher to minimize patient-to-researcher contact in order to comply with the Trusts' infection control policy. At the end of the interview, the details of the number of medications that had been prescribed prior to being admitted to the hospital and their diagnosed medical condition(s) were noted from their medical records. Interviewing continued until data saturation was reached at each hospital.

Due to the lack of published research, the interview schedule was developed by the research team and piloted with the first two interviews at each hospital. As the time available to undertake each interview was limited to 15 min and in consideration of the patients' condition, the interview schedule consisted of a series of short-answer questions (see Box 1). In addition, a series of prompts were used to encourage the interviewee to describe fully their expectations and experiences.

Box 1 Interview schedule

1. Have you seen a pharmacist on this ward?
2. Are you aware that a pharmacist is present on this ward?
3. Do you know what a pharmacist does?
4. Did you expect to see a pharmacist on this ward?
5. Did you expect to talk with a pharmacist whilst on this ward?
6. Can you tell what is meant by the term 'pharmacy services'?
7. Do you have any expectations regarding hospital-based pharmacy services?
8. If so, what are these expectations?
9. What experiences do you have of hospital pharmacy services?
10. Can you give me some examples of these?

The resulting transcribed interviews having been checked to ensure inter-interviewer reliability were thematically analysed using NVIVO software (QSR International Pty Ltd, <http://www.qsrinternational.com>, Australia). The first stage in the analysis of the interview transcript involved open coding in which the data were broken into segments. Those segments identified as being relevant were labelled with a recognizable description of the item or activity under construction. The second stage of the analysis involved the concepts being amalgamated into categories. During this process, the categories were refined and developed, and any relationships explored. In the third stage of this approach, the categories from each analysed transcript were systematically compared and thematically categorized.

A number of measures were incorporated into the design of the study to enhance rigour these included: interviewing until saturation was achieved at each hospital site, transcription checking and triangulation of the axial coding and emergent relationships of the analysis process.

Findings

Of the 74 inpatients interviewed, 37 were male, had an average age of 73 years and an age range of 19–86 years. The predominate number of participants (62/74, 84%) was in the 65–80 years age group. The average number of medications prescribed for participants before admission was five, with a range of 0–11.

Analysis of the data was driven by three themes: patients' expectations of the pharmacist's involvement in their treatment and care, the patients' experiences of any interaction that may have taken place and the patients' evaluation of their interaction with the pharmacist.

Patients' expectations of pharmacists' involvement in their treatment and care

The participants' expectation of seeing a pharmacist was 43% (33/74) whilst 57% (41/74)

had no such expectation. Of all the participants, 77% (57/74) had seen a pharmacist during their current hospital stay. All of those patients who had not expected to see or talk with a pharmacist (41/74) expressed surprise at seeing and/or talking with a pharmacist on the ward rather than seeing them in their traditional dispensing role.

It's a difficult one really cause you wouldn't [expect to talk to a Pharmacist], you usually connect the pharmacist with dispensing the drugs not actually sort of seeing what it is that you need, you know. You would think that'd be coming from the Doctor really. (Y21: male, 46 years, medications 7)

The participants who had experienced an interaction with a hospital pharmacist during this stay in hospital expected the interaction between themselves and the pharmacist to involve a discussion regarding various aspects of their medication; including what their medication was for and how it would affect them.

...if they [pharmacist] had some spare time and just wanted to have a chat I supposed I'd ask what are the medicines for, what do they do, are there any side-effects, you know etc. (Y12: female, 48 years, medications 3)

The most common theme involved pharmacists and their relationship with the requisition and dispensing of medicines to patients on the ward and those being discharged.

I just expect that they [pharmacists] get your medication for you; you know when you need to take it, that it's there for you. (Y14: female, 72 years, medications 5)

Twenty-five patients who had not been admitted to a hospital before had no concept of how a hospital pharmacist was involved in their health care. These patients did not feel that the pharmacist's place was on the wards and the pharmacist had no clinical input into their treatment and care. They saw the pharmacist as quite an elusive figure, one that went about his/her business in the background.

Yeah I think the pharmacist they're a bit outside of the thing. You know like they're a silent

partner. They give you the medication but you don't really see them. (Z01: female, 63 years, medications 8)

On the other hand, 26 participants (35%) of those interviewed expressed very positive views, 'I'd give it a gold star', but were still surprised as well as satisfied with the pharmacist's involvement in their care and treatment.

It helped as they gave me a better background of the drugs I'm going to take. The Doctor tends to mutter something under his breath and then somebody else writes it down and then they're gone aren't they, 'cos of the time constraints obviously, but somebody then just fills everything in. (Y10: male, 46 years, medications 4)

Patients' experiences of the interaction with hospital pharmacists

Fifty-nine patients (80%) expressed how they had experienced long waiting times for their drugs upon discharge, which had not met their expectations.

... different people on the ward have said the same thing, is that on the day of the release from hospital the same thing always seems to come up waiting for the pharmacist to send the stuff through. I think that is the biggest complaint I have about the pharmacy. (Z04: male, 59 years, medications 7)

The majority of these respondents passed comments about the need for the pharmacist to supply them with 'the right drug'. As this was not investigated further during the interviews, it is difficult to determine what patients meant by this term. They could have been referring to the clinical appropriateness of the prescribed medicine(s), optimizing doses and frequency or merely checking that the medicine has been dispensed and labelled according to the patient's medical records.

They have been a lot more helpful here. She [pharmacist] has gone through several different types of medication and she's told me what she thinks would be the best one which obviously is helpful. (Z07: female, 19 years, medications 11)

Even patients with no previous experience of hospital pharmacists, prior to admission, expressed how information from the pharmacist could be of benefit to them.

They [pharmacist] should give advice and tell me how and what the tablets are for, what each tablet does and how it affects your body. The heart tablets, he has explained that because my blood pressure had fallen too low so the dose I was on was too high. So he explained all that. (Z22 Male, 68 years, medications 11)

Patients indicated that they considered that pharmacists are not only seen as the supplier of drugs but also as an expert on medicines. They expected the pharmacist not only to know about the medication(s) they were giving, but also to have clinical knowledge on their diagnosed condition and how the medication(s) would improve this. Ten (14%) patients expected information and guidance on side-effects, interactions between drugs, how to operate devices (for example, inhalers) in order to increase their compliance to their medication regimen.

They [pharmacist] teach me the techniques for using inhalers, the best way and time to use them. I'm well experienced with the inhalers I have been using them for 20 years now. There's really no excuse for anybody not doing it properly because the [name of pharmacist] is very, very helpful. (Y15: male, 62 years, medications 10)

I was going to ask the pharmacist I'm on Didro-nel you know for osteoporosis but, it's an awkward one because..... So I was going to ask if they could change that for me but I don't know whether there is any difference in it or not, whether it affects you in different ways I don't know. (Z06: female, 53 years, medications 3)

The findings indicate that hospital pharmacists deal with a wide spectrum of activities when interacting with patients. These activities ranged from simple and traditional supply tasks (for example, ensuring stock was available and ready at the point of discharge) to detailed discussions with the patient on issues relating to the appropriate management of their medicines and inherent pharmacological issues. The findings of this study are similar to

published studies undertaken in the United States of America.^{7,9,10}

It is possible that a lack of understanding of the clinical role of the hospital pharmacist limits patients understanding of what services they could expect as an adjunct to the supply of their medication. If the patient only sees the pharmacist as a supplier, it is likely that they may not expect nor ask for anything more. This belief may originate from the regular contact that patients have with community pharmacists. Their role in the main is seen as a supplier of medicines and an intermediary between the patient and their general practitioner.

This lack of insight of hospital pharmacist role suggests that patients' expectations are not necessarily what they may desire or choose. In the same way, if the pharmacist is unaware what the patient understands and expects from them, any service they provide may not achieve its desired impact on the care of that patient. To ensure efficiency in service provision, a proactive approach to promoting how pharmacy services and hospital pharmacists are involved in the direct care of patients should be undertaken.

Patients' evaluation of the interactive skills of the pharmacist

Once an interaction had begun, patients were likely to respond positively to the pharmacist's interactive skills and information provided. Attributes that facilitated a constructive interaction included availability, approachability, ability to listen, using layman's terms and the use of common sense when dealing with any issues. Nonetheless, patients did indicate there were a number of attributes that impeded the development of a constructive interaction.

Facilitating a constructive interaction

Patients spoke of the pharmacists' availability and approachability when compared to other health-care professionals, in particular doctors.

If he [pharmacist] comes to the bed then you have plenty of time to talk to them. You can ask them whether you need the paracetamol or you vitamins or whatever. (X03: male, 37 years, medications 8)

Patients often felt that the pharmacist spent ample time with them, giving an opportunity for the patient to relax and ask questions. Some patients mentioned that pharmacists had spent between 5 and 30 min with them; no one indicated that the pharmacist had not spent enough time with them.

Long enough, I didn't feel he [pharmacist] was fobbing me off or anything but he spent sufficient time with me to explain what was happening. (X13: male, 80 years, medications: 5)

The context of the interaction was an important attribute. Patients (48/74, 65%) considered that the pharmacist was someone who would listen to them and take time to understand what they had to say. They commended on the common sense and ease of understanding in the conversation with the pharmacist.

She [pharmacist] was very helpful and nice and very nice, because when you are in somewhere like this it is nice to have somebody that is nice to you. (X05: female, 82 years, medications 3)

They [pharmacists] give you straight talk, and they use simple enough terms that you know, duffers like me can understand. (Z8: male, 76 years, medications 4)

Pharmacists' ability to bring complicated medicine or medical-related issues down to understandable wording and layman's terms is another reason for patients finding them approachable and easy to talk too.

Impeding a constructive interaction

There were a number of characteristics noted by patients that impeded the patient-pharmacist interaction. These include aspects regarding the initiation of the interaction, the ability to identify the pharmacist and pharmacists being more concerned with the patient's medical record than the patient as an individual.

The patients interviewed had mixed feelings regarding who they would expect to initiate the interaction between the patient and pharmacist. Some participants expected the pharmacist to initiate a conversation; other patients would expect to ask question of the pharmacist. Moreover, patients mentioned that it was difficult to differentiate between hospital staff involved in treatment and care. Patients considered that they should be more informed about who was involved in their care and treatment. One patient indicated that pharmacists and other health-care professionals should introduce themselves appropriately and did not feel this was happening. In many cases, patients had conversations with health-care professionals without an introduction. Similarly, it was difficult for the participants to distinguish a pharmacy technician from a pharmacist. A number of patients (15/74, 20%) implied that they presumed 'the person in the green uniform from the pharmacy department' was a pharmacist.

I just think really that they [pharmacists] should communicate especially on this ward. I've seen the pharmacist. There is a lady comes round. I don't know if she is from the pharmacy. She never says two words. She just walks around. I don't think it's right, anyone can talk can't they? (W26: female, 47 years, medications 6)

Patients use uniforms to identify a person's role and differentiate them from others in the hospital. A few patients associated a person wearing a shirt and tie with medical staff and a specific coloured uniforms with other professionals within the hospital. Patients find it difficult to differentiate the pharmacist and the doctor as they dress similarly. Given the lack of verbal introduction noted earlier, only the presence of an identity badge or stethoscope would enable identification.

Finally, several patients (16/74, 22%) felt that the pharmacist was not treating them as people, but was more concerned with their medicine chart. They felt affronted by the lack of communication and forethought given to treating them as individual people on the part

of the pharmacist. They had expected a more personal interaction, as had occurred on previous occasions.

Well I take it that it is the pharmacist..... when I was in [name of ward] the pharmacist used to just chat to you. You knew exactly what was happening. (X08 male, 47 years, medications 4)

The findings indicate that patients' quality of interaction with the ward pharmacist was often high. Patients talked of the pharmacist being helpful and that it was a good idea to have a pharmacist on the ward. Common sense, approachability, ease of understanding and use of lay-mans' terms were highly valued by patients. It is these 'inexpensive interventions' that make an interaction more meaningful and rewarding for patients.¹⁰

Discussion

The findings of the study indicate a dichotomy of expectations and opinions from patients about the engagement of hospital pharmacists and pharmacy services in their care. Overall, some expectations were being met, and others were not. It is possible that these findings are related to patients' limited knowledge of the pharmacists' role within a hospital-based service or could be attributed to the degree and content of the interaction between patients and pharmacists.

This study indicates that patients are also not aware of how pharmacists contribute to their care, which is similar to other health-care professionals' perceptions on how pharmacists contribute to the care of patients.¹⁴ If hospital pharmacy is to further develop its role and integrate into multidisciplinary teams particularly in this era of patient choice, the public's expectation of its role and involvement in quality patient care needs to be considered, explored and incorporated. This need not be overly complex as a simple intervention to ensure that all pharmacists introduce themselves to the patient and/or leave a small leaflet to indicate their role and how they could be contacted maybe all that is required in the first

instance. These two simple and inexpensive interventions could be concurrent with a long-term promotion of pharmacy services undertaken by individual pharmacists, the hospital trust and professional body.¹¹

Currently, under development by the Royal Pharmaceutical Society is a set of standards for hospital pharmacy services. The standards are based upon a consensus, drawn from the views of a variety of professionals, patients and organizations, of what a quality pharmacy service should encompass.¹⁵ The aim of the standards is to optimize outcomes from medicines for patients in order to shape services and pharmacy roles in order to deliver quality patient care.^{15,16} Whilst patients, carers and families have been involved in development of these standards and their views reflected in the end-product, it is unclear how these quality standards are to be communicated to the wider public to inform their expectations of the hospital pharmacists' role in providing quality clinical treatment and care.

For hospital pharmacists' roles and services to develop and expand in the current NHS, it is important that the challenge of seeking, acquiring and responding to patients' expectations is embraced. This would lead to improved patients' understanding of the different and many beneficial services they receive from hospital pharmacy services. In addition, future pharmacy services can be built around the patient, engaging their concerns, responding to their expectations and meeting their needs, in line with government strategy. As a valuable member of the clinical team, pharmacists' roles around the world are expanding, and it is important to ensure that patients are aware of these changes to help them maximize the benefit they derive from their country's health-care system.

Limitations of the study

As with any study, the findings have to be considered in the light of the limitations of the study. Generalization of the findings is limited by the qualitative nature of this study, due to small sample size and inclusion of only

patients admitted to medical wards. The short-interview time of 15 min may have prevented an in-depth exploration of the issues. Further limitations may result from patients being unwilling to give honest opinions about staff that were treating them because the interview was of necessity short and undertaken at the bedside. The study only examined the patients' perspective as no observations of pharmacist interventions were undertaken. It is therefore not possible to determine whether specific patient's expectations were appropriate or realistic at the time. As with all studies, the reflections noted in this article may differ from patients who were not interviewed. In addition, the medical condition of the patient may have influenced the reflections given by patients.

In spite of these limitations, this study has shown inpatients' opinions, expectations, views and knowledge of hospital pharmacy services. The next phase of the research is to utilize the findings of this qualitative study in the development of a questionnaire to survey a wider population of patients.

Conclusion

Patients expressed a dichotomy of expectations and opinions about the capability of a hospital pharmacist and pharmacy services on the wards of the three hospitals involved in the study. Patients' expectation of seeing a pharmacist whilst an inpatient was surprisingly low, most expected the pharmacist to be involved in the traditional dispensing role rather than clinically involved in their treatment and care. Nonetheless, patients' experience of the pharmacist's interaction indicated that they had appreciated the clinical nature of their role. However, a number of barriers to this interaction remained.

These findings can in part be attributed to patients' limited knowledge of the pharmacists' role within a hospital-based service or could be attributed to the degree and content of the interaction between patients and pharmacists. As pharmacists' roles around the world

develop towards a patient-orientated model it is important to ensure that patients are aware of these developing roles to help them maximize the benefit they derive from their country's health-care system.

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Conflict of interests

None reported.

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